

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

--	--	--	--	--	--	--	--	--	--

# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 1, 2018/2019

### MID1093 – RAPID MODELING

(All sections / Groups)

17 OCTOBER 2018

2.30 p.m - 4.30 p.m

( 2 Hours )

---

#### INSTRUCTIONS TO STUDENTS

1. This Question Paper consists of 3 pages with 5 questions only.
2. Answer **FOUR** out of the FIVE questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

1. A) Discuss 3 advantages of rapid prototyping (RP). (9 marks)
- B) Brief 8 usages of rapid prototyping. (16 marks)
- (Total 25 marks)

2. A) Fill in the blanks in each of these statements:-

- i. JP System 5 builds model from \_\_\_\_\_ data using label \_\_\_\_\_ and a knife plotter. JP5 is a simple and \_\_\_\_\_ modeller for creating rough 3D models.
- ii. \_\_\_\_\_ Particle Manufacturing (BPM) is an old RP technology using printed wax models by firing \_\_\_\_\_ droplets of molten wax from a moving jet onto a stationary platform
- iii. The Model Maker (MM) system produces highly accurate wax patterns using \_\_\_\_\_ printing technology with molten wax.
- iv. \_\_\_\_\_ Modeling (MJM) produces wax prototypes using inkjet technology.
- v. Direct Shell Production (DSP) is based on three dimensional printing (3DP) using \_\_\_\_\_ as the primary builds material.

(16 marks)

B) Give full name to each of these rapid prototyping acronyms:-

- i. FDM
- ii. LOM
- iii. SLS

(9 marks)

(Total 25 marks)

Continued...

3. A) Discuss the advantages of FDM.  
(20 marks)
- B) Name 5 model printers that use FDM technology.  
(5 marks)
- (Total 25 marks)
4. A) The Ultimaker 2+ 3D printer has an open filament system. Discuss what open filament system is?  
(6 marks)
- B) Discuss 7 features of the Ultimaker 2+ 3D printer.  
(14 marks)
- C) List 5 Ultimaker 2+ 3D printer's supported materials.  
(5 marks)
- (Total 25 marks)
5. During the process of printing the 3D objects using FDM 3D printers. Warping may occur due to material shrinkage. Discuss 5 methods on how to minimize this issue.  
(25 marks)
- (Total 25 marks)

**End of Paper**